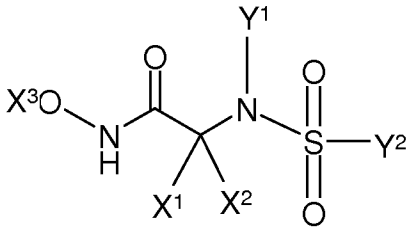
Amendments to the Claims.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A PET or SPECT *in vivo* imaging agent which comprises a metalloproteinase inhibitor of Formula (I) labelled with an imaging moiety attached at the Y^1 or Y^2 positions,



(I)

where:

Y^1 is H or $-(CH_2)_w-(C{=}O)-Z$; where w is an integer of value 1 to 6; and

Z is OH, C_{1-6} alkoxy, C_{4-10} aryloxy or NR^1R^2 wherein R^1 and R^2 are each independently selected from the group consisting of H, C_{1-6} alkyl, C_{3-6} cycloalkyl, C_{1-6} fluoroalkyl or C_{4-10} aryl.

X^1 and X^2 together with the carbon atom to which they are attached, form a C_{3-10} saturated ring which may be alicyclic or bicyclic, and may optionally incorporate 1 or 2 heteroatoms chosen from O, N and S;

X^3 is H, C_{1-3} alkyl or C_{1-3} fluoroalkyl;

Y^2 is a group of formula $-[A^1]_p[O]_qA^2$ where p and q are 0 or 1, and A^1 is C_{1-10} alkylene, C_{3-8} cycloalkylene, C_{1-10} perfluoroalkylene, C_{6-10} arylene or C_{2-10} heteroarylene, and A^2 is H, C_{1-10} alkyl, C_{3-8} cycloalkyl, C_{1-10} perfluoroalkyl, C_{6-10} aryl or C_{2-10} heteroaryl, with the proviso that when p=0, q is also 0 and A^2 is not H;

wherein the imaging moiety can be detected following administration of said labelled matrix metalloproteinase inhibitor to the mammalian body *in vivo*: and is chosen from:

(i) a radioactive metal ion, which is a gamma emitter or a positron emitter chosen from ^{99m}Tc, ^{111}In, ^{64}Cu, ^{67}Cu, ^{67}Ga or ^{68}Ga;

(ii) the gamma-emitting radioactive halogen ^{123}I;

(iii) a positron-emitting radioactive non-metal chosen from ^{18}F, ^{11}C or ^{13}N.

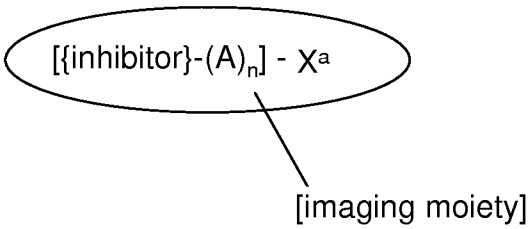
2. (Original) The imaging agent of Claim 1, where Y^1 is $-(CH_2)_w-(C{=}O)-Z$ and w is 1, 2 or 3.

3. (Withdrawn) The imaging agent of Claim 1, where X^3 is H, CH_3 or CH_2F.

4. (Previously presented) The imaging agent of Claim 1 where Y^2 is $-C_6H_4-O-A^2$, and A^2 is C_{6-10} aryl.

5. (Withdrawn) The imaging agent of Claim 1, where the imaging moiety is chosen from:
   (i) a radioactive metal ion;
   (ii) a paramagnetic metal ion;
   (iii) a gamma-emitting radioactive halogen;
   (iv) a positron-emitting radioactive non-metal;
   (v) a hyperpolarised NMR-active nucleus;
   (vi) a reporter suitable for *in vivo* optical imaging;
   (vii) a ß-emitter suitable for intravascular detection.

6. (Previously presented) The imaging agent of Claim 1, where the imaging agent is of Formula II:



(II)

where:

{inhibitor} is the metalloproteinase inhibitor of Formula (I);

$-(A)_n-$ is a linker group wherein each A is independently $-CR_2-$, $-CR=CR-$, $-C\equiv C-$, $-CR_2CO_2-$, $-CO_2CR_2-$, -NRCO- , -CONR- , $-NR(C=O)NR-$, $-NR(C=S)NR-$, $-SO_2NR-$, $-NRSO_2-$, $-CR_2OCR_2-$, $-CR_2SCR_2-$, $-CR_2NRCR_2-$, a C_{4-8} cycloheteroalkylene group, a C_{4-8} cycloalkylene group, a C_{5-12} arylene group, or a C_{3-12} heteroarylene group, an amino acid, a sugar or a monodisperse polyethyleneglycol (PEG) building block;

R is independently chosen from H, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{1-4} alkoxyalkyl or C_{1-4} hydroxyalkyl;

n is an integer of value 0 to 10; and

and X^a is H, OH, Hal, NH_2, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkoxyalkyl, C_{1-4} hydroxyalkyl or X^a is the imaging moiety.

7. (Withdrawn) The imaging agent of Claim 6, where the imaging moiety is attached at the Y^1 or Y^2 positions of the metalloproteinase inhibitor.

8. (Withdrawn) The imaging agent of Claim 1, where the matrix metalloproteinase inhibitor is conjugated to a ligand, and said ligand forms a metal complex with an imaging moiety which is a radioactive metal ion.

9. (Withdrawn) The imaging agent of Claim 8, where the ligand is a chelating agent.

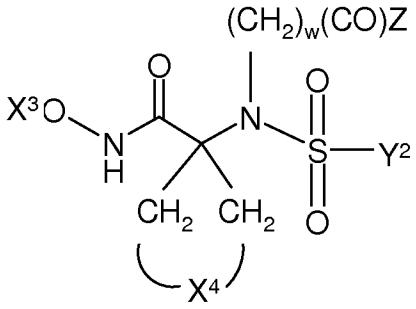
10. (Withdrawn) The imaging agent of Claim 8, where the radioactive metal ion is a gamma emitter or a positron emitter.

11. (Withdrawn) The imaging agent of Claim 10, where the radioactive metal ion is ^{99m}Tc, ^{111}In, ^{64}Cu, ^{67}Cu, ^{67}Ga or ^{68}Ga.

12. (Withdrawn) The imaging agent of Claim 5, where the gamma-emitting radioactive halogen imaging moiety is ^{123}I.

13. (Withdrawn) The imaging agent of Claim 10, where the positron-emitting radioactive non-metal is chosen from ^{18}F, ^{11}C or ^{13}N.

14. (Withdrawn) The imaging agent of Claim 1, where the matrix metalloproteinase inhibitor is of Formula IV:

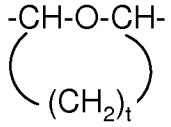


(IV)

where: Y^2, w and Z are as defined in Claim 1;

X^3 is H, CH_3 or CH_2F;

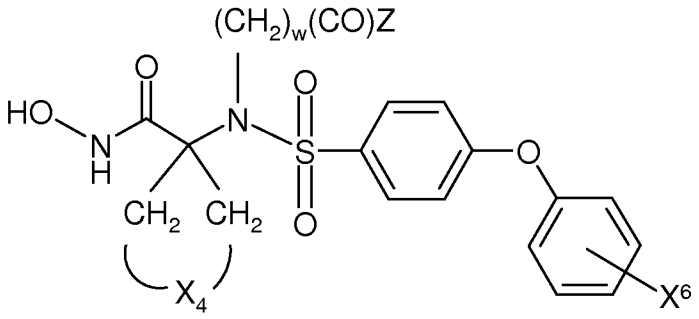
X^4 is $-(CH_2)_m-$ where m is 1, 2 or 3, $-CH_2OCH_2-$ or X^5 where X^5 is



where t is 2 or 3.

15. (Withdrawn) The imaging agent of Claim 14, where Z is NR^1R^2.

16. (Previously presented) The imaging agent of Claim 1, where the matrix metalloproteinase inhibitor is of Formula V:



(V)

where:

X^6 is Hal, R^1 or OR^1, where R^1 is $C_{1\text{-}3}$ alkyl or $C_{1\text{-}3}$ fluoroalkyl.

17. (Original) The imaging agent of Claim 16, where Z is NR^1R^2, X^6 is F; and X^4 is $-(CH_2)_2$-, $-CH_2OCH_2$- or X^5 with t equal to 2.

18. (Withdrawn) A pharmaceutical composition which comprises the imaging agent of Claim 1 together with a biocompatible carrier, in a form suitable for mammalian administration.

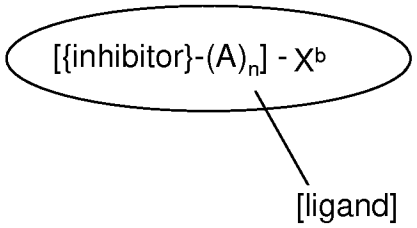
19. (Previously presented) A radiopharmaceutical composition which comprises the imaging agent of Claim 1, together with a biocompatible carrier, in a form suitable for mammalian administration.

20. (Withdrawn) The radiopharmaceutical composition of claim 19, where the imaging moiety comprises a radioactive metal ion.

21. (Original) The radiopharmaceutical composition of claim 19, where the imaging moiety comprises a positron-emitting radioactive non-metal or a gamma-emitting radioactive halogen.

22. (Withdrawn) A conjugate of a matrix metalloproteinase inhibitor of Formula (I) as defined in Claim 1 with a ligand, wherein said ligand is capable of forming a metal complex with an imaging moiety which is a radioactive.

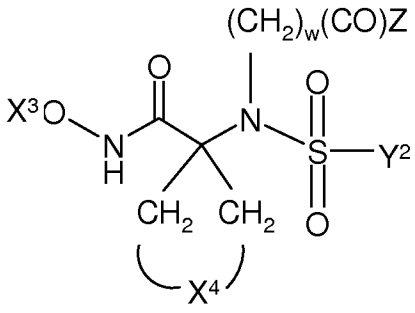
23. (Withdrawn) The conjugate of Claim 22, of Formula IIb:



(IIb)

where {inhibitor}, A and n are as defined in Claim 6;
and X^b is H, OH, Hal, NH_2, C_{1-4} alkyl, C_{1-4} alkoxy, C_{1-4} alkoxyalkyl, C_{1-4} hydroxyalkyl or X^b is the ligand.

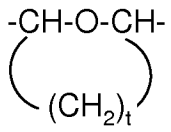
24. (Withdrawn) The conjugate of Claim 22, wherein the matrix metalloproteinase inhibitor is of Formulae IV



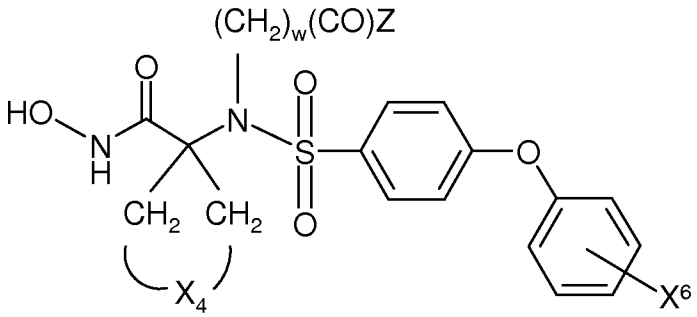
(IV)

where: Y^2, w and Z are as defined in Claim 1;
X^3 is H, CH_3 or CH_2F;

X^4 is $-(CH_2)_m-$ where m is 1, 2 or 3, $-CH_2OCH_2-$ or X^5 where X^5 is



where t is 2 or 3 or wherein the matrix metalloproteinase inhibitor is of Formulae V



(V)

where:

X^6 is Hal, R^1 or OR^1, where R^1 is C_{1-3} alkyl or C_{1-3} fluoroalkyl.

25. (Withdrawn) The conjugate of Claim 22, wherein the ligand is a chelating agent.

26. (Withdrawn) The conjugate of Claim 25, wherein the chelating agent has a diaminedioxime, N_2S_2, or N_3S donor set.

27. (Withdrawn) A kit for the preparation of the radiopharmaceutical composition of Claim 20.

28. (Withdrawn) The kit of Claim 27, where the radioactive metal ion is ^{99m}Tc, and the kit further comprises a biocompatible reductant.

29. (Previously presented) A kit for the preparation of the radiopharmaceutical composition of Claim 21, which comprises a precursor, said precursor being a non-radioactive derivative of the matrix metalloproteinase inhibitor of wherein said non-radioactive

derivative is capable of reaction with a source of the positron-emitting radioactive non-metal or gamma-emitting radioactive halogen to give the desired radiopharmaceutical.

30. (Original) The kit of claim 29 where the precursor is in sterile, apyrogenic form.

31. (Previously presented) The kit of Claim 29, where the source of the positron-emitting radioactive non-metal or gamma-emitting radioactive halogen is chosen from:
    (i) halide ion or F^+ or I^+; or
    (ii) an alkylating agent chosen from an alkyl or fluoroalkyl halide, tosylate, triflate or mesylate.

32. (Withdrawn) The kit of Claim 29, where the non-radioactive derivative is chosen from:
    (i) an organometallic derivative such as a trialkylstannane or a trialkylsilane;
    (ii) a derivative containing an alkyl halide, alkyl tosylate or alkyl mesylate for nucleophilic substitution;
    (iii) a derivative containing an aromatic ring activated towards nucleophilic or electrophilic substitution;
    (iv) a derivative containing a functional group which undergoes facile alkylation;
    (v) a derivative which alkylates thiol-containing compounds to give a thioether-containing product.

33. (Previously presented) The kit of Claim 29, where the precursor is bound to a solid phase.

34. (Withdrawn) A method of diagnostic imaging of atherosclerosis of a mammalian subject *in vivo*, which comprises administration of the imaging agent of Claim 1 to said subject, followed by detection of the imaging moiety of said imaging agent.

35. (Withdrawn) A method of diagnostic imaging of unstable plaques of a mammalian subject *in vivo*, which comprises administration of the imaging agent of Claim 1 to said subject, followed by detection of the imaging moiety of said imaging agent.

36. (Withdrawn) A method of intravascular detection of atherosclerosis of a mammalian subject *in vivo*, which comprises administration of the imaging agent of Claim 1 to said subject, followed by detection of the imaging moiety of said imaging agent.